Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
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Revision of Parts 2 and 15 of the	)	ET Docket No. 03-122
Commission's	)	RM - 10371
Rules to Permit Unlicensed National Information	)	
Infrastructure (U-NII) Devices in the 5 GHz band		

COMMENTS OF THE INFORMATION TECHNOLOGY INDUSTRY COUNCIL

The Information Technology Industry Council (ITI) welcomes this opportunity to provide comments in this very important matter to the information technology sector. ITI represents the top U.S. providers of information technology (IT) products and services. ITI is the voice of the high tech community, advocating policies that advance U.S. leadership in technology and innovation, open access to new and emerging markets, support e-commerce expansion, protect consumer choice, and enhance the global competitiveness of its member companies.

I. INTRODUCTION

ITI applauds the Federal Communications Commission (the Commission) for its ambitious and forward looking efforts to critically examine the nation's spectrum policy and resources. We believe the Commission's efforts, including the work of the Spectrum Task Force and the subsequent rulemakings, will help improve the management and assignment of spectrum in the United States. Through a proactive and modern system of spectrum policy, the

Commission will encourage technical innovation as well as strengthen the United State's global leadership on these important technology issues.

In particular, ITI supports the Commission's proceedings, such as this one, that seek to provide new allocations for unlicensed spectrum. ITI supports policies that will promote the rapid development of affordable, high-speed Internet access. The Commission's efforts with this rulemaking will lead to global harmonization of the 5 GHz frequency band and enable the widespread deployment of wireless technologies. Accordingly, with the resolution recently adopted by the World Radio Conference (WRC) on the mobile allocation of 5 GHz spectrum for Wireless Access Systems such as RLAN, this proceeding is an important step forward toward international adoption of this frequency band.

ITI's goal is for the maximum number of consumers to experience the full potential of the Internet and the information technology revolution. ITI also recognizes that devices using this frequency band must not cause harmful interference to other licensed spectrum users. Wireless technologies using unlicensed spectrum in these bands, in concert with innovative mitigation techniques, hold great promise and can advance the goal of realizing the full potential of the information technology revolution.

II. UNLICENSED SPECTRUM

Wireless devices operating in unlicensed spectrum bands using technologies such as IEEE 802.11, Bluetooth, and Ultra-Wide Band (UWB) are an important and rapidly growing segment of the information technology industry. These technologies offer the advantage of mobility while providing broadband speeds. Wireless local area networks (WLANs) are

increasingly commonplace in the business environment. It is estimated that 32% of workers will have WLAN access within the year and 44% within the next two years.[1]

In addition to the number of users, the number and variety of wireless IT products and applications are also growing. Public "hot spots" using wireless technology are being launched everywhere from airport lounges to coffee shops, university libraries and the Commission itself. [2] [3] Moreover, these wireless technologies serve as an "enabling" platform, promoting innovation in applications and equipment as well as the deployment of other complementary technologies such as broadband and last mile applications.

Wireless technologies have many important benefits to consumers, businesses, and the economy. In many cases, these technologies are enabling access to informative and sometimes life-saving technologies for schools and healthcare providers. Research has found a significant increase in productivity for companies who have invested in the deployment of technologies utilizing unlicensed spectrum such as WLANs. One study has indicated that WLAN access results in an average of 1.75 additional hours worked per day for a 22% overall productivity improvement.[4] The same study also confirmed an increase in accuracy of work performed with 39% of end-users reporting that WLAN technology improves the accuracy of everyday tasks and 47% of healthcare organizations finding significant improvements in accuracy. Common, ubiquitous broadband Ethernet access allows these mobile users the same access to the same sets of critical applications and content as their wire-constrained counterparts.

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[1] *Wireless LAN Benefits Study*, NOP World, [http://newsroom.cisco.com/dlls/tln/wlan_benefits.html

[2] See ITI 10 Point Plan to Bring Broadband to More Americans [http://www.itic.org/policy/brdbnd_020502.pdf]

[3] FCC Goes WiFi, August 4, 2003.

[4] *Wireless LAN Benefits Study*

ITI indicated in its comments to the Spectrum Task Force proceeding that in order to meet the rapidly growing demand for unlicensed wireless networks the Commission must identify additional spectrum for these uses. Additionally, ITI recognizes and supports the important caveat that there will be an obligation to prevent harmful interference to current or future licensed services and government operations as well as the basic understanding that unlicensed devices must be able to accept interference from those services and operations. It is vital to create an environment that will foster innovation and allow creation of new technologies and uses so long as they are compatible with the licensed services. This proceeding is a positive and logical step towards this continuing effort.

III. TABLE OF FREQUENCY ALLOCATIONS

ITI supports the Commission's proposal to implement the frequency allocations consistent with the U.S. proposals presented at the World Radio Conference (WRC) earlier this summer. Specifically, ITI supports the proposed modifications of the U.S. Frequency Allocations in Part 2.106 of the Commission's rules to include Part 15 operation and to upgrade the status of the non-Federal Government Radiolocation service to co-primary in the 5470-5725 MHz band. Furthermore, ITI supports the Commission's proposal to permit Unlicensed National Information Infrastructure (U-NII) devices to operate in the 5470-5725 MHz band on a non-interfering basis.

ITI believes U-NII devices can effectively operate in accordance with the Commission's Part 15 requirements without causing interference to radar systems by deploying Dynamic

Frequency Selection (DFS).[5] The use of DFS, as agreed upon by Industry, the National Telecommunications and Information Administration (NTIA), and the Department of Defense (DoD), utilizes a listen-before-transmit mechanism that permits a device to only operate if it detects that there are no radar operations in the device channel. Otherwise, the device searches for another channel that is not in use by radar systems. ITI notes that the proposed rules do not address the ITU-R Recommendation M.1652 regarding antennas with gain greater than 0 dBi. ITI requests that the FCC follow the ITU-R Recommendation M.1652 and specify a relaxation of the DFS requirement in proposed rule 15.407(h)(2).[6]

ITI also supports the Commission's proposed upgrades for the various satellite services and radiolocation services in this band as adopted by the WRC Resolution. As a result of discussions in preparation for, and during WRC, we do not believe devices operating outdoors in the 5250-5350 MHz bands will cause harmful interference to those services.

Finally, ITI supports the Commission's proposal to update the restricted band allocations for Part 15.205 by removing the 5470-5725 MHz band from the list of restricted frequencies for Part 15 devices. We believe this is a necessary technical modification to align the Table of Frequencies with the agreements among the various U.S. government agencies and incorporated in the WRC Resolution.

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[5] DFS, listen-before-transmit mechanism should use the following thresholds: 64 dBm for devices operating with an E.I.R.P. of 200mW to 1 Watt and 62 dBm for devices operating with less than 200 mW E.I.R.P.

[6] ITU-R Recommendation M.1652, "Dynamic frequency selection (DFS)1 in wireless access systems including radio local area networks for the purpose of protecting the radiodetermination service in the 5 GHz band". At Annex 2, section 3.1.2 states: *The detection threshold is defined in terms of dBm normalized to the output of a 0 dBi receive antenna. If the WAS uses higher antenna gains, the* T_{DFS} *level should be increased, by adding the antenna gain*.

IV. U-NII RULES

ITI supports the Commission's proposed changes to operation in the 5250-5350 MHz and 5470-5725 MHz bands, including the requirements for DFS and Transmit Power Control (TPC). We recognize the significant efforts put forth by the various U.S. government agencies to reach this compromise. Furthermore, we believe these forms of mitigation are valuable techniques that will protect against harmful interference from wireless devices operating in these bands.

ITI believes devices operating in the 5250-5350 MHz band should achieve compliance with the DFS requirements within one year, while existing products operating in these bands be given two years for compliance. While this may be a tight timeframe, it is achievable and will accelerate the development and deployment of such products. Additionally, consumers are unlikely to purchase products that do not utilize advanced technologies such as DFS and are therefore not as robust in applications and frequencies. Accordingly, the timeframe ITI proposes will accelerate development and deployment of advanced devices as well as improve the user's experience.

We strongly encourage the Commission, however, to permit industry to meet these objectives through innovative techniques and methods and not set forth technical specifications or requirements. The IT industry is fully committed to the expansion of operation in these bands and will develop and utilize new and emerging technologies to meet the objectives of non-interfering products. Furthermore, newer systems are more robust than when the negotiations between NTIA, DoD and the Commission began, and defining DFS parameters may only further limit innovation and the use of more advanced technologies to prevent interference.

ITI also supports flexibility efforts of the Commission in which DFS and TPC requirements can be met via numerous approaches with regard to multiple devices operating

under the control of a central device and the appropriate triggering mechanism. Again, the Commission should permit industry to determine the best method and technique to apply DFS technology. Additionally, ITI suggests the user should define which mechanism is most appropriate since the user will have knowledge of the actual use environments for these devices.

V. CONCLUSION

ITI appreciates the opportunity to provide its views in this important proceeding. We urge the Commission to adopt these changes on an expedited basis. ITI believes the adoption of these changes will facilitate the adoption of the WRC Resolutions and harmonize the use of these bands globally which enables manufacturers to build one product for the global market.

Furthermore, ITI appreciates the efforts of the Commission, NTIA, and DoD by finding common agreement on the allocation of spectrum combined with innovative protection techniques for licensed services and government operations. We recognize the considerable efforts involved by all parties. The results of this agreement will provide the necessary environment for the design, manufacture, and rapid deployment of innovative wireless devices that can be used globally.

ITI looks forward to continuing to work with the Commission on these important issues.

Respectfully submitted,

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